

PART I Authorization to Operate

- A. The permittee is authorized to operate Class V Injection Wells, at the facility described in the permit application and in the cover page of this permit, in accordance with the provisions set forth in this permit.
- B. This permit and the authorization to inject shall remain in effect until the expiration date stated on the cover page of this permit. If the permittee desires to continue injection past the expiration date of this permit, the permittee shall request a permit reissuance at least 180 days prior to expiration of this permit.

PART II Construction Requirements

- A. Injection Well Requirements
 - 1. The permittee may inject magnesium sulfate solution as described in the permit application.
 - 2. The permittee shall provide a means of sampling the injection fluids prior to injection.
- B. Modifications

Approval of the Alabama Department of Environmental Management (ADEM) shall be obtained prior to modification of any injection well or supporting surface. Modification shall mean any action that will change the configuration of the well beneath the surface, the methods of monitoring injection, or will result in injection of a fluid not specifically authorized by this permit.

PART III Monitoring and Operating Requirements

- A. Injection Fluids

The permittee shall not inject any substance that is defined as hazardous or toxic by Federal or State laws or regulations or any substance not identified in the applications for this permit. The use of fluids or substances other than those identified in the permit application is prohibited.
- B. Monitoring Wells
 - 1. The permittee shall monitor and limit groundwater in accordance with Appendix A. The injection activity shall not result in the exceedence of any established MCL in groundwater outside the areas of existing petroleum contamination.
 - 2. The groundwater monitoring regime must be sufficient to detect any adverse affects to groundwater quality due to the injection activity. The Department may change the sampling requirements if the sampling data indicate a need to do so.
 - 3. Monitoring wells shall be sampled for background water quality prior to injection.

C. Operation

The injection wells operated under this permit shall function properly and the injection fluids shall not surface. Should the injection wells fail to function properly, the permittee shall take corrective action, to include cessation of injection, as required by ADEM.

PART IV Records, Reports, & Submittals

A. Records

1. The permittee shall retain all records concerning the data used to complete the permit modification application, the operation of the wells, and the nature and composition of substances injected; to include records of the calibration of instruments, meters and gauges, quality control records, and recordings from continuous monitoring instrumentation; until at least three years after the closure of wells.
2. When requested by ADEM, the permittee shall deliver any of the records maintained in accordance with this permit.

B. Reports

1. Quarterly, the permittee shall submit to ADEM written confirmation of all injection of permitted substances. The confirmations shall include the information listed below:
 - a) The dates of the injection.
 - b) The amount of each substance injected.
 - c) The location(s) of the injection.
2. The permittee shall submit to ADEM ground water monitoring reports on a quarterly basis. The reports shall include as a minimum:
 - a) The date, and exact place of sampling;
 - b) The complete chain of custody forms for all samples collected and
 - c) The results of each analysis performed.
3. The permittee shall report to ADEM any of the following:
 - a) Any planned action which will change the use of the injection wells, will result in injection of a fluid different from that authorized by this permit, will change the method of operations of any injection well, or will change the method of the monitoring of well operations or injected fluids.
 - b) Any planned transfer of ownership of all or part of the permitted facility.
 - c) Any relevant facts of which the permittee becomes aware which should have been submitted in a permit modification application and any corrections to data previously submitted in a permit application.

4. Other Submittals

Studies, engineering reports, plans and specifications, plugging and abandonment plans, logging reports, and other technical documents submitted to comply with this permit shall be prepared by or under the supervision of qualified persons defined by Rule 6-8-.13 of the UIC Regulations of the ADEM.

PART V Plugging and Abandonment

- A. The permittee shall perform any abandonment and closure actions that may be required by ADEM to remove a threat to groundwater quality or to the health of persons which is caused by the injection activity.
- B. Upon the end of use for each injection well, the permittee shall plug and abandon each well in a manner which protects each USWD from pollution by surface water and which prevents the movement of any pollutant or formation fluid from one USDW to another or from one formation to another and which isolates the injection zone

PART VI Permit Modification, Revocation, Suspension, and Termination

- A. ADEM may impose emergency additional conditions to this permit when necessary to protect waters of the state from pollution. These conditions may include suspension of the permit to inject and shall remain in effect until the permit is modified, revoked, suspended or terminated in accordance with 6-8-.12(a)3-5 and 6-8-.12(f) of the UIC Regulations of the ADEM.
- B. Non-emergency permit modification, revocation, suspension, and termination actions shall be accomplished in accordance with ADEM Administrative Code Rule 335-6-8.

PART VII General Provisions

- A. The permittee shall comply with all provisions of the UIC Regulations of the ADEM and shall comply with all provisions of this permit and shall reduce or halt injection if needed to maintain compliance with the permit and regulations.
- B. The permittee shall comply with all applicable Federal and State hazardous waste management regulations.
- C. The permittee shall allow members of the ADEM staff to:
 - 1. access property and records of the permittee for purposes of inspection.
 - 2. collect samples of the injected fluids, process and wastewater streams associated with the permitted injection wells.
 - 3. collect samples from any monitoring wells.
 - 4. obtain copies of records upon request.
- D. The permittee shall immediately take all reasonable steps to minimize or correct any adverse environmental impact resulting from the operation of the permitted injection wells.
- E. This permit does not convey any property rights of any sort, or any exclusive privilege.

- F. The filing of a request by the permittee for a permit modification, revocation, and reissuance, or termination, or a notification of planned changes or anticipated noncompliance does not stay any permit condition.
- G. Any noncompliance with this permit constitutes a violation of the Alabama Water Pollution Control Act and/or the Underground Injection Control Regulations and is grounds for enforcement action such as permit termination, revocation, modification; or denial of a permit renewal application.
- H. Injection into waters of the state, which in this case is groundwater, in accordance with this permit shall not result in the exceedance of any primary or secondary Maximum Contaminant Level (MCL) in groundwater as established by the Environmental Protection Agency. Injection into groundwater, in accordance with this permit shall not result in a violation of a surface water quality standard.
- I. All provisions of ADEM Admin. Code Rule 335-6-8-.12 are incorporated as terms and conditions of this permit by reference.

APPENDIX A

Groundwater monitoring wells MW-18, MW-19, MW-23, and MW-44 shall be sampled prior to startup and then quarterly as specified below.

<u>GROUNDWATER PARAMETER</u>	<u>UNITS</u>	<u>DISCHARGE LIMITS</u>	<u>MONITORING REQUIREMENTS</u>	
			<u>FREQUENCY</u>	<u>SAMPLE TYPE</u>
pH	standard units	Monitor	quarterly	Grab
Sulfate	mg/L	Monitor	quarterly	Grab
Total Dissolved Solids	mg/L	Monitor	quarterly	Grab

ADEM Permit Rationale

Date: August 15, 2012

Prepared by: Joe Kelly

Permit Applicant: University of Alabama- attention Dr. Lynda Gilbert, 271 Rose Admn Bldg,
801 University Blvd, Tuscaloosa, AL 35401

Facility Name: Bryce Hospital

Location: 200 University Blvd
Tuscaloosa
Tuscaloosa County, Alabama
Lat: N 33.218056/W -87.535278
Town 21S, Range 10 W, Section 13

UIC Permit Number ALSI9963029

Draft Permit is: Initial Registration / New Use

Injection Description: injection of magnesium persulfate to aid in the
remediation of existing groundwater contamination

Discussion: Standard permit drafted.

1. No hazardous injection
2. Sampling point required
3. Groundwater sampling required